IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method of processing seismic data, the data being in the frequency-space domain, the method comprising:

determining a prediction filter from the seismic data at a first frequency at which swell noise is not present; and

applying the prediction filter to seismic data at a second frequency at which swell noise is present, thereby to attenuate swell noise in the seismic data at the second frequency, wherein the second frequency is different from the first frequency.

2. (Previously Presented) The method as claimed in claim 1 and further comprising the steps of:

determining a prediction filter from the seismic data at a third frequency at which swell noise is not present, the third frequency not being equal to the first frequency; and

applying the prediction filter to seismic data at a fourth frequency at which swell noise is present, the fourth frequency not being equal to the second frequency, thereby to attenuate swell noise in the seismic data at the fourth frequency.

3. (Previously Presented) The method as claimed in claim 2 wherein the difference between the first frequency and the second frequency is equal to the difference between the third frequency and the fourth frequency.

4. (Previously Presented) The method as claimed in claim 1 further comprising, for each frequency in the range for which swell noise is present in the seismic data, determining an associated prediction filter from the seismic data at a frequency at which swell noise is not present.

5. (Previously Presented) The method as claimed in claim 4 wherein the frequency range for which swell noise is present in the seismic data extends from a frequency f_L to

a frequency f_H, and the associated prediction filter for frequency f_i is determined from seismic data at a frequency $f_{i-L+H+1}$.

6. (Currently Amended) A method of marine seismic surveying comprising:

actuating a source to emit acoustic energy;

acquiring seismic data in the frequency-space domain;

determining a prediction filter from the seismic data at a first frequency at which swell noise is not present; and

applying the prediction filter to seismic data at a second frequency at which swell noise is present, thereby to attenuate swell noise in the seismic data at the second frequency, wherein the second frequency is different from the first frequency.

7. (Previously Presented) The method as claimed in claim 6 wherein the step of acquiring seismic data in the frequency-space domain comprises acquiring seismic data in the time domain and transforming the data to the frequency-space domain.

8. (Previously Presented) The method as claimed in claim 7 comprising the further step of transforming the processed data to the time domain.

9. (Currently Amended) An apparatus for processing seismic data, the data being in the frequency-space domain, the apparatus comprising:

means for determining a prediction filter from the seismic data at a first frequency at which swell noise is not present; and

means for applying the prediction filter to seismic data at a second frequency at which swell noise is present, thereby to attenuate swell noise in the seismic data at the second frequency, wherein the second frequency is different from the first frequency.

10. (Previously Presented) The apparatus as claimed in claim 9 and further comprising:

means for determining a prediction filter from the seismic data at a third frequency at which swell noise is not present, the third frequency not being equal to the

first frequency; and

means for applying the prediction filter to seismic data at a fourth frequency at which swell noise is present, the fourth frequency not being equal to the second frequency, thereby to attenuate swell noise in the seismic data at the fourth frequency.

11. (Previously Presented) The apparatus as claimed in claim 9 adapted to determine, for each frequency in the range for which swell noise is present in the seismic data, an associated prediction filter from the seismic data at a frequency at which swell noise is not present.

12. (Previously Presented) The apparatus as claimed in claim 11 wherein the frequency range for which swell noise is present in the seismic data extends from a frequency f_L to a frequency f_H, and the apparatus determines, in use, an associated prediction filter for frequency f_i from seismic data at a frequency $f_{i-L+H+1}$.

13. (Previously Presented) The apparatus as claimed in claim 9 comprising a programmable data processor.

14. (Currently Amended) A seismic surveying arrangement comprising:

a source of acoustic energy;

means for acquiring seismic data in the frequency-space domain;

means for determining a prediction filter from the seismic data at a first frequency at which swell noise is not present; and

means for applying the prediction filter to seismic data at a second frequency at which swell noise is present, thereby to attenuate swell noise in the seismic data at the ~~fourth~~ second frequency, wherein the second frequency is different from the first frequency.

15. (Previously Presented) The seismic surveying arrangement as claimed in claim 14 wherein the means for acquiring seismic data in the frequency-space domain

comprises one or more receivers for acquiring seismic data in the time domain and transform means for transforming the data to the frequency-space domain.

16. (Currently Amended) A ~~storage medium comprising a program for executing a method of~~ computer-readable medium having stored thereon computer-executable instructions which, when executed by a computer, cause the computer to:

~~determining~~ determine a prediction filter from the seismic data at a first frequency at which swell noise is not present; and

~~applying~~ apply the prediction filter to seismic data at a second frequency at which swell noise is present, thereby to attenuate swell noise in the seismic data at the second frequency, wherein the second frequency is different from the first frequency.

17. (Canceled)

18. (New) The method of claim 1, wherein the first frequency is greater than the second frequency.